

Claims

- [c1] A shower system comprising:
 - a shower stall comprising a sidewall, a ceiling, and a base, said shower stall defining a shower area;
 - a shower stall housing enclosing said shower stall, wherein an air channel is defined between said shower stall and said shower stall housing;
 - at least one misting nozzle positioned within said shower stall; and
 - a controller directing misted air through said at least one misting nozzle, said controller further activating an air flow system such that misted air within said shower area flows through and is dried in said air channel.
- [c2] The system of claim 1, wherein said shower stall comprises a cylindrical, cubicle, conical, or irregular shape defining said shower area.
- [c3] The system of claim 1 further comprising a user accessible water input tank receiving water from a user prior to said user taking a shower.
- [c4] The system of claim 1 further comprising an input display, wherein commands are entered for at least one of

user height or user desired temperature.

- [c5] The system of claim 1, wherein said controller receives at least one of: a height of user signal, a temperature within said shower area signal, or a distance signal and adjusts said at least one misting nozzle as a function thereof.
- [c6] The system of claim 5 further comprising at least one height sensor generating a height of user signal.
- [c7] The system of claim 5 further comprising at least one temperature sensor generating a temperature within said shower area signal.
- [c8] The system of claim 5 at least one distance sensor generating a distance signal as a function of a distance between said at least one misting nozzle and a user.
- [c9] The system of claim 1 further comprising at least one water pipe feeding said at least one misting nozzle.
- [c10] The system of claim 1 further comprising a plurality of misting nozzles.
- [c11] The system of claim 10 further comprising a first number of said plurality of misting nozzles on a first row receiving water from said pipe.

- [c12] The system of claim 11 further comprising a second number of said plurality of misting nozzles mounted on a second row receiving water from said pipe.
- [c13] The system of claim 12 further comprising a third number of said plurality of misting nozzles mounted on a third row receiving water from said pipe.
- [c14] The system of claim 12 further comprising a controller activating said first row of misting nozzles and said second row of misting nozzles when a user is within a first height range and activating only said second row of misting nozzles when said user is within a second height range.
- [c15] The system of claim 1, wherein said base defines at least one opening for receiving mist.
- [c16] The system of claim 15, wherein said base is perforated.
- [c17] The system of claim 1, wherein sides of said shower stall and said shower stall housing comprise at least one condensing surface.
- [c18] The system of claim 1 further comprising a drain receiving water from said condensed surfaces.
- [c19] An airplane shower system comprising:
 - a changing area;

a shower stall adjacent to said changing area such that a user enters said shower stall directly from said changing area, said shower stall substantially cylindrical in shape and comprising,

a primary wall comprising a sidewall comprising an interior surface and an exterior surface, a ceiling and a base, said interior surface of said primary wall defining a shower area, said interior surface comprising a hydrophobic surface, said exterior surface comprising a first condensing surface,

a secondary wall comprising an inner surface, said inner surface of said secondary wall comprising a second condensing surface, wherein an air channel is defined between said exterior surface of said primary wall and said inner surface of said secondary wall such that water within mist flowing through said air channel condenses on said first condensing surface and said second condensing surface;

a first row of misting nozzles coupled to said primary wall such that said first row of misting nozzles direct mist into said shower area at multiple angles with respect to a central area of said shower area, wherein said central area is substantially trans-axial to said shower stall;

a second row of misting nozzles coupled to said primary wall below said first row of misting nozzles such that

said second row of misting nozzles direct mist into said shower area;
a fan coupled to said shower stall;
a controller activating said first row of misting nozzles and said second row of misting nozzles when a user is within a first height range and activating said second row of misting nozzles when said user is within a second height range, said controller further controlling said fan, thereby blowing misted air out of said shower area and through said base whereby said misted air flows though said air channel.

- [c20] The system of claim 19, wherein said primary wall comprises a cylindrical, cubicle, conical, or irregular shape defining said shower area.
- [c21] The system of claim 19 further comprising a user accessible water input tank receiving water from a user prior to said user taking a shower.
- [c22] The system of claim 19 further comprising an input display wherein commands are entered for at least one of user height or user desired temperature.
- [c23] The system of claim 19 further comprising at least one height sensor generating a height of user signal.
- [c24] The system of claim 19 further comprising at least one

temperature sensor generating a temperature within said shower area signal.

- [c25] The system of claim 19 at least one distance sensor generating a signal as a function of a distance between at least one of said plurality of misting nozzles and a user.
- [c26] The system of claim 19 further comprising at least one water pipe feeding said plurality of misting nozzles.
- [c27] The system of claim 19 further comprising a third number of said plurality of misting nozzles mounted on a third row receiving water from said pipe.
- [c28] The system of claim 19, wherein said base defines at least one opening for receiving mist.
- [c29] The system of claim 19, wherein said base is perforated.
- [c30] The system of claim 27 further comprising a drain receiving water from said condensed surfaces.
- [c31] A method for operating a shower system having a shower area for showering of a user comprising:
 - receiving a height signal based on a height of the user;
 - activating a plurality of nozzles as a function of said height signal;
 - activating a misting cycle wherein a mist is directed out of said nozzles;

activating a soaping cycle;
activating a drying cycle;
activating a cleaning cycle in response to the user leaving the shower area; and
blowing air into the shower area, thereby forcing misted air out of the shower area and into an air channel defined by at least one condensing surface.

- [c32] The method of claim 29 further comprising receiving user inputted water.
- [c33] The method of claim 29, wherein activating said soaping cycle further comprises pausing said misting cycle.
- [c34] The method of claim 29 further comprising recycling at least a portion of said air through said shower area.
- [c35] A shower system for showering of a user comprising:
a primary wall comprising a sidewall comprising an interior surface and an exterior surface, a ceiling and a base, said interior surface of said primary wall defining a shower area, said interior surface comprising a hydrophobic surface, said exterior surface comprising a first condensing surface;
a secondary wall comprising an inner surface, said inner surface of said secondary wall comprising a second condensing surface, wherein an air channel is defined be-

tween said exterior surface of said primary wall and said inner surface of said secondary wall such that water within mist flowing through said air channel condenses on said first condensing surface and said second condensing surface;

a first row of misting nozzles coupled to said primary wall such that said first row of misting nozzles direct mist into said shower area at multiple angles with respect to a central area of said shower area, wherein said central area is substantially trans-axial to said shower stall;

a second row of misting nozzles coupled to said primary wall below said first row of misting nozzles such that said second row of misting nozzles direct mist into said shower area;

a fan coupled to at least a portion of at least one of said ceiling or said base; and

a controller comprising logic for receiving a height signal based on a height of the user, activating said first row of misting nozzles and said second row of misting nozzles as a function of said height signal, activating a misting cycle wherein a mist is directed out of said first row of misting nozzles and said second row of misting nozzles, activating a soaping cycle, activating a drying cycle, activating a cleaning cycle in response to the user leaving said shower area, and blowing air into said shower area,

thereby forcing misted air out of said shower area and into said air channel.

- [c36] The system of claim 33 further comprising a user accessible water input tank receiving water from the user prior to the user taking a shower.
- [c37] A shower system for a vehicle comprising:
 - a changing area;
 - a shower stall adjacent to said changing area such that a user enters said shower stall directly from said changing area, said shower stall comprising,
 - a primary wall comprising a sidewall comprising an interior surface and an exterior surface, a ceiling and a base, said interior surface of said primary wall defining a shower area, said interior surface comprising a hydrophobic surface,
 - a secondary wall comprising an inner surface, wherein an air channel is defined between said exterior surface of said primary wall and said inner surface of said secondary wall such that water within mist flowing through said air channel condenses within said air channel;
 - a first row of misting nozzles coupled to said primary wall such that said first row of misting nozzles direct mist into said shower area at multiple angles with respect to a central area of said shower area;
 - a fan coupled to said shower stall; and

a controller activating said first row of misting nozzles when a user is within a first height range, said controller further controlling said fan, thereby blowing misted air out of said shower area and through said base whereby said misted air flows though said air channel.

- [c38] The system of claim 35 further comprising a second row of misting nozzles coupled to said primary wall below said first row of misting nozzles such that said second row of misting nozzles direct mist into said shower area.
- [c39] The system of claim 36, wherein said controller activates said second row of misting nozzles when a user is within a second height range.
- [c40] The system of claim 36, wherein at least one of said inner surface of said secondary wall, said exterior surface of said primary wall, or an exterior surface of said base comprise a condensing surface.
- [c41] The system of claim 36 further comprising a user accessible water input tank receiving water from a user prior to said user taking a shower.
- [c42] The system of claim 36, wherein the controller further comprises logic for activating a misting cycle wherein a mist is directed out of said first row of misting nozzles, activating a soaping cycle, activating a drying cycle, and

activating a cleaning cycle in response to the user leaving said shower area.

- [c43] The system of claim 36 wherein said controller activates a third row of misting nozzles and a fourth row of misting nozzles when a user is within a third height range and a fourth height range respectively.